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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,743	11/01/2001	Yong Hwan Jeong	01-699	3580

7590 09/09/2003

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EXAMINER

RICHARDSON, JOHN A

ART UNIT PAPER NUMBER

3641

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/040,743

Applicant(s)

JEONG ET AL.

Examiner

John Richardson

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 to 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Non Final Rejection

1). Applicant's election without traverse of group I reading on claims 1-6, and canceling claims 7-10 in Paper No. 9 is acknowledged.

2). The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3). The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4). Claims 1, 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Jeong et al (U.S. 6,261,516).

The reference discloses zirconium alloy for use in nuclear fuel cladding comprising the alloys reading within the ranges in the cited claims (see Column 5, lines 41-47) in the form of niobium (Nb) 0.3 - 1.2% by weight, tin (Sn) 0.4 -1.2% by weight, iron (Fe) 0.1 – 0.5% by weight, silicon (Si) 80 – 120 ppm, oxygen (O2) 600 – 1,400 ppm and copper (Cu) 0.1 – 0.3% by weight, and the balance being zirconium, and relating to claim 2, wherein the combined Nb and Sn content aggregates in the range 0.7 – 2.4%.

5). Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al (U.S. 6,261,516) as applied to claim 1, 2.

The reference discloses the claimed invention except for citing specific numerical values for particular alloying elements (claim 3). It would have been obvious to one of ordinary skill in the art at the time of the invention, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

6). Claims 4, 5 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al (U.S. 6,261,516) as applied to claim 1, 2 in view of Jeong et al (II) (U.S.5,985,211).

The primary reference discloses the claimed alloy except for citing the addition of chromium in range of 0.05 – 0.2% by weight. The secondary reference discloses that it is well known in the nuclear fuel cladding art to add chromium to zirconium alloy material. It would have been obvious to one of ordinary skill in the art at the time of the invention to have included a percentage of the element chromium within the range (see secondary reference Column 5, lines 59+, Column 6, lines 1-2, providing chromium at the range of 0.05 – 0.25% by weight) in order to improve corrosion resistance.

7). Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Claims 4, 5 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al (U.S. 6,261,516) as applied to claim 1, 2 in view of Jeong et al (II) (U.S.5,985,211) as applied to claims 1, 2, 4, 5.

The reference discloses the claimed invention except for citing specific numerical values for particular alloying elements (claim 6). It would have been obvious to one of ordinary skill in the art at the time of the invention, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

8). The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

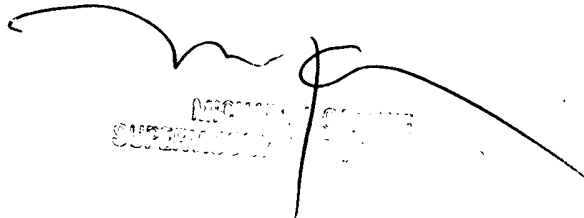
9). Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Richardson whose telephone number is (703) 305 0764. The examiner can normally be reached on Monday to Thursday from 7.00 AM to 4.30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306 4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305 7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 1113.

John Richardson, PE,

September 03 2003.



Handwritten signature of John Richardson, PE, dated September 03 2003.